Do Annual Stock Price Effects of Extreme Cash Dividend Pay-Out Events Differ from Their Short Term Effects?

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Henk von Eije and Cal Muckley

Abstract
In this paper, we assess the long-term stock price impact of 1327 cash dividend payment initiations and 1156 cash dividend payment omissions of firms listed on the NYSE and the NASDAQ, from 1972 to 2012. In particular we compare the annual returns of dividend initiating and omitting firms and firms that are equally likely to initiate (or omit). We find larger price effects during the years of cash dividend initiation and omission than is measured by earlier short period event studies, but we find no price impact after the year has elapsed. When measuring such long-run effects, contemporaneous (same year) determinants of price effects may confound the findings of pure dividend initiations or omissions. We therefore test whether there are also unexpected changes in the contemporaneous determinants of returns, and we find that risk measures and net income differ systematically between firms that initiate (or omit) and firms that have similar characteristics, but do not change their payout policy. When correcting for such effects we find that systematic risk does not influence concurrent returns in the years of initiations or omissions, though total risk does. Idiosyncratic risk changes only influence the returns after dividend omissions. With and without correction for 'contemporaneous' factors, we find –also for several robustness tests- that the one year price impact of initiations is larger than that of omissions, which suggests that the surprise effects of dividend omissions are on average smaller than those of dividend initiations.

Key words: excess returns, dividend initiations, dividend omisions, information content, investor expectations

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1.0 INTRODUCTION

When a firm initiates or omits a payment of a cash dividend, such a decision is a substantive alteration in corporate policy. This paper investigates the extent to which investors anticipate cash dividend initiations and omissions, and whether after correction for such expectations there remain excess annual stock price impacts of these events. We link anticipation about extreme cash dividend event candidates to the annual stock price impact using a difference-in-differences propensity score matching methodology. We also account for the importance of contemporaneous firm-level events.[1] Our approach allows the identification of new information in the capital market which is originated by firm management by the extreme cash dividend events and also to assess the impact of such new information.

There are typically positive value effects after initiations of cash dividends (Healy and Palepu, 1988, Benartzi, Michaely, and Thaler, 1997, Boehme and Sorescu, 2002, and Charitou, Lambertides and Theodoulou, 2011). Relatively large negative value effects are documented after omissions of cash dividends (Healy and Palepu, 1988, Michaely, Thaler, and Womack, 1995, Benartzi, Michaely, and Thaler, 1997 and Liu, Szewczyk and Zantout, 2008). The relatively large magnitude of the response to cash dividend omissions is usually related to the "the reluctance of managers to reduce dividends" (Michaely, Thaler, and Womack, 1995). A dividend omission announcement is, thus, arguably a bigger surprise to investors than a dividend initiation (Liu, Szewczyk and Zantout, 2008). In this paper, we study the capacity of investors to anticipate cash dividend initiations and omissions. Using firm propensities to extreme cash dividend events, we estimate the relative long-run equity stock market responses of those firms which conduct such events.

Conjectured insight which endeavours to account for long-run price effects is three fold. First, dividend initiations and omissions can contain new information which makes these events similar to earnings surprises. We may, hence, expect comparable post-dividend announcement drift as e.g. Ball and Brown (1968), Bernard and Thomas (1990) and Chan, Jegadeesh and Lakonishok (1996) find for earnings. Second, with omissions, there can be over-reaction to the bad news contained within the investigated period and consequent mean reversion of returns as De Bondt and Thaler (1985, 1987) find for corporate losers in respect to their equity market performance. This latter approach provides reason to expect exactly the opposite pattern in prices after omissions, than is expected in the post-dividend announcement drift hypothesis. Third, clientele effects can play an

[1] Market price may not immediately reflect the full information content of events, but rather the information may impact prices over time. Our study, of long-run price impact, is thus related to the question of the informational efficiency of the market.

important role. For instance, institutions may prefer cash dividend payments (because of the 'prudent man' rules in their charter) while this may not be the case for private investors due to a (previous) taxation disadvantage of the dividend type of pay out (Black and Scholes 1974, and Shefrin and Statman, 1984). As a result, a gradual change in the stockholder clientele of the firm, after cash dividend initiations or omissions, may generate price drift (Shleifer, 1986), though the price pressure direction of a stockholder clientele effect is not clearly predictable in advance of an extreme cash dividend event.

Michaely, Thaler and Womack (1995) study 561 dividend initiations and 887 dividend omissions from 1964 to 1988. They focus on equally weighted returns and match on size and book-to-market firm characteristics. They find short-run 3-day price reactions to omissions (7%) are greater than those for initiations (3%). In the post-announcement year a price drift in the same direction is evident, and is more pronounced after cash dividend omissions. Michaely, Thaler and Womack ascribe the larger effect of omissions to the higher information content of omissions. This is related to the well-known reluctance of managers to reduce dividends relative to their propensity to increase dividends.

Fama (1998) highlights that informational inefficiency results, such as those reported in Michaely, Thaler and Womack (1995), may be due to chance, an incorrect statistical method or a mis-specified expected return model. For the current paper it is in particular of importance that the best matching criteria should be used to test informational inefficiency and the existence of long-term stock price performance.

Boehme and Sorescu (2002) respond to this call for additional rigour in statistical tests and inference. They study 2,886 cases of dividend initiations or resumptions 1927-1998 of firms listed on the NYSE, AMEX and NASDAQ. In a direct response to the Fama (1998) paper, they use equal and value weighted returns and they extend the set of matching criteria used in Michaely, Thaler and Womack (1995) to also match on pre-announcement momentum in equity performance. They show that price drift is not robust across sub-samples and in the 1964 to 1988 period is confined to small firms. The overall conclusion is that the Michaely, Thaler and Womack (1995) results may be simply due to chance.

Turning to cash dividend omissions, Liu, Szewczyk and Zantout (2008) study 2,337 reduction/ omission announcements 1927-1999 of firms listed on the NYSE, AMEX and NASDAQ. In response to the Fama (1998) paper, they also conduct improved testing and inference. They use a Fama-French three factor model using OLS and WLS with respect to equal-weighted and value-weighted calendar month event-portfolio returns. Mean difference in stock price performance between dividend event and matched firms with seven different matching criteria. They find

negative 1-year post announcement abnormal returns. This is, however, driven by the post earnings announcement drift and skewness of buy-and-hold abnormal returns. Hence, they find no compelling evidence of post dividend event price drift. Again, it is suggested that the Michaely, Thaler and Womack (1995) results may be due to chance.

In this paper, we also respond to Fama (1998) and we extend the studies of Boehme and Sorescu (2002) and Liu, Szewczyk and Zantout (2008). We "re-assess" the long-term value effects of 1327 cash dividend payment initiations and 1156 cash dividend payment omissions of firms listed on the NYSE, AMEX and the NASDAQ and reporting in United States dollars, from 1972 to 2012. In the first instance, we investigate whether there is truly a greater surprise in the capital market in respect to omissions relative to initiations. We use a new counterfactual, which subsumes and improves on prior dimension-by-dimension matching, and thus allows new improved estimates of long-term price impacts. We, moreover, show that factors, like income and risk, do indeed change during the return measurement period. These factors may influence the estimates of the pure long-run dividend initiation and dividend omission effects. We, thus, account for changes in income and risk measures, as well as other hypothesized factors, to account for cross sectional same time period value effects at these dividend events.

To evaluate the cash dividend initiation short- and long-term stock price impact we adopt a matched difference-in-differences programme evaluation technique. Matching type difference-in-differences programme evaluation techniques can, in specific circumstances, elicit consistent estimates of programme effects, even in the context of an endogenously determined event.[2] In our setting, of an endogenously determined cash dividend initiation event, this event reveals to the capital market heretofore private information (i.e. on unobservable firm characteristics), on the part of the dividend initiating firm in respect to that firm management's propensity to self-select to

[2] The specific circumstances, to permit obtaining a consistent estimate of such a stock market value effect, necessitate, *inter alia*, a distinction between the decision makers who determine the event and those decision makers who determine the impact of that event. Invoking a semi strong form market efficiency assumption means that such a distinction is natural in the setting of a capital market impact of a corporate policy decision – such as a stock price response to a dividend initiation decision. Indeed, an information asymmetry argument, in line with the adjudicative intervention of the Securities and Exchange Commission's trading restrictions between managers and capital market participants, is all that is necessary.

The other assumptions which we invoke include (1) no reverse causality and that there is (2) no simultaneous news which may inform the dividend decision and the stock price behaviour and (3) no other corporate policy innovations which can account for the stock price behaviour. As the event and the stock market impact are observed chronologically in time we rule out the potential reverse causality source of bias. In respect to (2) our counterfactual is selected to match the dividend initiating firm in respect to potential outcomes – matching on publicly available information. Finally, in our identification strategy we account for changes in corporate policy in our estimation of the long-term dividend initiation stock price impact.

initiate a cash dividend payment. This new information can be of substantial value to market participants. For instance, it can convey information to the capital market concerning the phase of the financial life-cycle of the firm (Grullon, Michaely and Swaminathan, 2002, von Eije, Goyal and Muckley, 2014). The principal novelty of our approach is that we match not directly on expected stock returns, but rather, for statistical and economic reasons, on the propensity to the dividend initiation (or omission) event. Our approach subsumes and can improve on conventional matching approaches in the corporate finance literature. We, therefore, examine the price impact of these corporate policy decisions anew.

Our main findings are twofold. First, we provide new price impact estimates. We find larger price effects during the years of cash dividend initiation and omission than is measured by short period event studies. Our propensity score matching (nearest neighbour) difference-in-differences findings suggest that the one year price impact of initiations is 19.1% and the one-year price decline of dividend omissions is 14.1%. Because these results exceed the daily abnormal returns measures calculated for such events earlier, it is clear that there must be other aspects that influence annual abnormal returns in the event year, amongst which price drift after the announcement, price run-up before the announcement, or contemporaneous changes of return determinants. We do not find further price impacts after the initiation or omission year has elapsed. After correction for within same year 'contemporaneous' factors, we show that the long run one year return impact of initiations is (surprisingly) still larger than that of omissions. Moreover, significant effects of annual dividend omissions are even absent if one applies the same method to firms with negative earnings in the year that preceeds the omission year. We therefore conclude that –contrary to the short-run effects measured in previous event studies, the surprise effect of dividend omissions is less on an annual basis than that of dividend initiations.

Second, with respect to contemporaneous (same year) determinants of price effects we also provide new findings. First, we find that the difference-in-differences in systematic risk do not influence concurrent returns after initiations or omissions. Though, difference-in-differences in total risk is relevant. Second, difference-in-differences in idiosyncratic risk does influence the returns after dividend omissions. Finally, income, size and catering year effects (Baker and Wurgler, 2004), influence relative returns after cash dividend initiations and omissions.

The paper is organized as follows. In section 2, we describe our sample data and our identification strategy. Section 3 describes our empirical results. Section 4 concludes.

2. DATA AND METHODOLOGY

2.1 Data

Our dataset comprises dividend payout initiations and omissions, from 1972 to 2012, of firms listed at the NASDAQ or the NYSE and reporting in United States dollars. We use the COMPUSTAT-CRSP linking table and select NYSE and NASDAQ firms with share codes 10 and 11. Our principal payout variables are the actual initiations (omissions) of payouts of dividends. We require that dividend observations are available, though they may be zero. To correct for survivorship bias, our dataset comprises currently active and dead firms. We remove regulated utilities (codes 4900-4999) and financial firms (codes 6000-6999), firms with no fiscal year ends and firms without permanent company numbers. After this screen, we have 10,339 firms. For these remaining firms, we download the daily returns and calculate the corresponding weekly (Wednesday) returns. The data are matched by date to the risk free rates, the Small Minus Big and the High Minus Low returns from the website of Kenneth French.[3] We calculate the sample standard deviation of the excess weekly Wednesday returns as a measure of total risk. Then, we estimate, for each firm year, Fama and French (1993) Ordinary Least Squares regressions in the 52 week period preceding a fiscal year end. We calculate the sample standard deviation of the regression residuals to estimate the firm's idiosyncratic risk. The aggregate systematic risk is calculated as the square root of the difference between the squares of total and idiosyncratic risk. As a result, we obtain the annual sample estimates of weekly total, aggregate systematic and idiosyncratic risks.

As a constraint to ensure stock liquidity, in each fiscal year, we require that there are not more than 5 zero weekly return observations and that there are at least 48 non-missing values for the weekly return observations. In addition, we retain observations only when the fiscal year end of the firm is more than a full year after the initial public offering (IPO), where an IPO is identified as the first day of non-zero prices in CRSP. This screening procedure leaves 7,740 firms and up to 77,021 firm-year observations.

2.2 Methodology

In order to define the impact of an event – such as a cash dividend initiation – it is necessary to conceptualise a counterfactual scenario in respect to the event. A counterfactual scenario is one where all else is equal, but the 'event' does not take place. Then, the difference in the change in the outcome of interest (about the event), between event individuals and counterfactuals, is the

[3] http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

impact of the event. A quintessential feature, thus, of a counterfactual is that its potential outcome, independent of the event of interest, is identical to that of the event individual. This is the conditional independence assumption or 'strong ignorability' result, with respect to confounding factors, of Rosenbaum and Rubin (1983). This rationale is central to the merit of a matched difference-in-differences programme evaluation technique.

To operationalise this idea, in biomedical science, one frequently used mechanism is that the event is ascribed to the individual in an exogenous random process. This serves to preclude the dilemma of unobservable self-selection bias with respect to the measurement of the impact of the event. In contrast, unobservable self-selection bias can follow if the event is endogenous.[4] Indeed, Li and Prabhala (2009) suggest that a matching methodology is 'less plausible when the decision to choose an event is an endogenous choice of the decision maker, which is probably close to many corporate finance applications except perhaps for exogenous shocks such as regulatory changes.'

Dividend initiation announcements are inherently endogenous events as their magnitude and timing is decided on by corporate management. We therefore qualify the Li and Prabhala (2009) caveat such that unobservable self-selection bias only follows if the event is endogenous and, critically, if the decision makers with respect to the event and those which determine the impact of that event, share, at least to some extent, a common membership. If there is distinct group membership across the decision makers, we can invoke a simple information asymmetry argument.[5] In a dividend initiations setting, the information available to the set of decision makers who decide on the dividend initiation announcement can be expected to be different, than the information available to that set of capital market participants who will determine, by virtue of their trading decisions, the value impact of the dividend initiation announcement (Tanimura and Wehrly, 2012). The argument implies that due to Securities and Exchange Commission's trading restrictions, the decision makers in respect to the cash dividend initiation event and the decision makers in the capital market have available different information – private and public, and only publicly available information, respectively. Thus, we adopt a solution which arises from a critical distinction between the estimation of an effect on an outcome which is, in part, determined by the decision makers at the firm (e.g. corporate policy change impact on corporate earnings) or which

[4] For instance, in the evaluation of the effect of a job training programme on participant's earnings, self-selection to the programme can arise due to unobservable participant traits (Lalonde, 1986). These unobservable traits can, by definition, not be matched (controlled for) across participant and counterfactual individuals. As a result, an impact of the job training programme on comparative participant earnings can be difficult to elicit due to the possibility that post-programme earnings can be influenced by unobservable participant traits as well as the programme of job training. This may, in turn, introduce a bias in the estimation of the mean job training programme effect on programme participant's earnings.

[5] Such an argument is consistent with, but does not require, the semi-strong form market efficiency hypothesis (Fama, 1970).

is determined exclusively by decision makers in the capital market (e.g. corporate policy change impact on corporation stock market value). In the former case, there is scope for self-selection bias, in the latter case there is not.

Therefore, to invoke a causal interpretation of our matching difference-in-differences test results, in respect to dividend initiation events, we can assume selection on observables (Barnow, Cain and Goldberger, 1981), as this is the distinct information set available to participants in the capital market. Selection on observables is tantamount to the conditional independence assumption, which is necessary for causal inference, where the potential outcomes are independent of selection to the programme, conditional on observable covariates.

It is, hence, not our objective to match on the private information held by firm management with respect to their decision to initiate a dividend or not to do so. The 'bias' to self-select to initiate a dividend, due to this private information, is precisely what is revealed to the market in a cash dividend pay-out decision or the absence of such a decision. Capital market participants respond by making trading decisions based on the new information concerning the firm management's predilection to self-select to initiate a dividend payment. It is the capital market value of the private information which is revealed by the event.

We assume, therefore, that dividend initiating firm and its counterfactual firm is indistinguishable, on the basis of publicly available information, prior to the self-selection, on the part of firm management, to initiate a cash dividend. The self-selection, to the cash dividend initiation announcement, is, hence, an exogenous shock from the perspective of the capital market participants, relative to a counterfactual with an identical ex-ante propensity to the cash dividend initiation announcement. Our difference-in-differences matching model can elicit the value effect of the information content of a cash dividend initiation announcement.

2.1 A New Counterfactual

In order to estimate the impact of any event it is necessary to operationalise a counterfactual scenario. We select a counterfactual by matching on the propensity to the dividend initiation event. In doing so, we address a caveat that has plagued the merit of findings in earlier studies, which is that of imperfect control-firm matching (Fama, 1998).

Traditional approaches, in the corporate finance literature on dividend initiations (Michaely, Thaler and Womack, 1995, Boehme and Sorescu, 2002 and Bessembinder and Zhang, 2013) to approximate the counterfactual scenario match the cash dividend paying firm with a

counterfactual firm on certain firm traits (e.g. size, market-to-book and industry sector), but neglect to explicitly attempt to account for the propensity to the pay-out event itself. In line with the semi-strong form of the efficient market hypothesis (Fama, 1970) investors can have expectations, based on publicly available information, on prospective dividend pay-out events, which are reflected in price behaviour. Whether the pay-out event is expected to occur is a major determinant of expected stock return (Hartzmark and Solomon, 2013) and its neglect can, therefore, be a substantial limitation in the construction of an appropriate counterfactual.

We, hence, avail of a new counterfactual, which explicitly accounts for the estimated propensity, based on observable firm characteristics, to a firm to self-select to a pay-out event. Moreover, our approach subsumes a dimension-by-dimension matching methodology on the conditioning covariates. Many of the covariates which are understood to determine expected returns also have a role to play in determining the dividend initiation decisions. As we do not know the propensity score specification with certainty we choose to simultaneously conduct 'balancing score' tests on covariates (Rosenbaum and Rubin, 1985, Dehejia and Wahba, 2002, Lechner, 2002, Sianesi 2004, and Smith and Todd, 2005). To the extent that these tests are satisfied (see Appendix B), we match not solely on the propensity to the dividend initiation event but also on those covariates which can explain expected returns. Our principal focus, however, is on the propensity score estimation as we assert that we know more about the determination of dividend initiations than we do of the process determining stock returns (Rosenbaum and Rubin, 1985, and Angrist and Kuersteiner, 2007). Our approach to constructing a counterfactual, thus, can subsume the economic rationale merit in previously adopted sampling methods while improving on them. It conceptually accounts for surprises in initiations, which are likely to be inferred by capital market investors.

Our construction of a new counterfactual satisfies not only conventional matching criteria, but, in addition, matches the dividend event firm on the propensities to the actual event.

In this paper, we adopt nearest neighbour propensity score matching to identify comparable counterfactual firms (Rosenbaum and Rubin, 1983), prior to an announcement of a cash dividend payment initiation or omission. We extend Boehme and Sorescu (2002) to re-assess the value effects of 2886 cash dividend payment initiations of firms listed on the NYSE or the NASDAQ and reporting in United States dollars, from 1972 to 2014. Contrary to the extant literature which matches on risk factors, we utilize a matching procedure for the selection of the counterfactual firms, where the matching is based on the publicly available information in the capital market.[6]

[6] In order to account for the, *ex ante*, expectations of investors in the market, we match on the propensity of a firm to initiate or omit a payout. This construction of sets of counterfactual firms differs from Michaely,

Our counterfactual firms therefore have a comparable, ex ante, propensity to initiate pay outs as the firms which actually initiate. In respect to the resulting firms, investors are unable to distinguish whether they will initiate. However, as managers can have more information than investors, firms with a similar likelihood of a pay-out event, from the perspective of investors, do not necessarily exhibit the same incidence of actual payout events. Cash dividend pay-out initiation events, which are conducted by management, reveal new information to investors, which results in positive value effects after initiations. We compare the stock price changes of firms that do initiate (or omit) to those of the firms that do not signal such additional information to the market.

To elicit the value effect of the information content of a cash dividend initiation announcement, we, thus, invoke a conditional independence assumption such that the firm which self-selects to initiate a cash dividend and its counterfactual have the same – prior to dividend initiation announcement – expected value outcomes, conditional on a set of determinants, which can influence these outcomes.

Finally, we adopt a difference-in-differences estimator on stock prices about the cash dividend event, in respect to both the dividend initiating and the counterfactual firms. This estimator can elicit a consistent estimate of the mean effect of a dividend initiation announcement on the value of a dividend initiating firm.

2.2 Accounting for contemporaneous effects

Our study also incorporates an assessment of the relative importance of cash flow and risk related news (Grullon, Michaely and Swaminathan, 2002 and von Eije, Goyal and Muckley, 2014), which is realised during the period of measurement of price impact at these dividend events (Grullon, Michaely and Swaminathan, 2002, Bulan, Subramanian and Tanlu, 2007, Liu, Szewczyk and Zantout, 2008).

Cross sectional regression analyses of 1st year post-announcement abnormal returns (BHAR; CAR) on hypothesized explanatory factors. Liu, Szewczyk and Zantout, 2008 report that (for omissions) explanatory factors such as prior dividend yield, the percentage point magnitude of the cut, firm size, the proportion of paying firms, market return, earnings growth and market model beta changes, should be accounted for. This specification is informed following prior work; Ghosh

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Thaler and Womack, 1995, Boehme and Sorescu, 2002 and Bessembinder and Zhang, 2013, who do not match on a firm's propensity to the payout event.

and Woolridge (1988), Christie (1994), Grullon, Michaelly and Swaminathan (2002), Baker and Wurgler (2004). The overall finding is that goodness-of-fit measures and White (1980) corrected t-statistics suggest that such factors cannot predict/ explain all economically significant proportion of the variation in the one-year announcement returns.

3. EMPIRICAL FINDINGS

Table 1 shows the return and risk characteristics of dividend (re)initiating firms and dividend (re)omitting firms in the year of initiation or omission (1972-2012). Initiating firms are defined as firms that pay in a certain year and did not do so in the previous year. This is less strict as in Von Eije, Goyal and Muckley (2014), who required also t-2 to be zero and t+1 to be still paying. This less demanding screen makes the number of observations larger. Omitting firms are simply firms that paid last year, but do not do so this year.

In Panels A and B, it is evident that the stock returns of initiators and omitting firms are as expected. Their mean values are strongly positive for initiators (17.3%) and strongly negative for omittors (11.3%).[7] The direction of the three risk changes; total, systematic and idiosyncratic risks, are also as expected for the two groups. The dividend initiation (omission) event is associated with a reduction (increase) in risks. Earnings (nitaw) are positive for initiating firms and negative for omitting firms, but the net operating cash flows are positive for both groups. In Panel C, of the table, the risk changes are shown to be negatively associated with the excess log returns. Increases in earnings and net operating cash flows are positively related to the stock returns.[8]

[Please insert table 1 about here.]

Table 2 shows fiscal year excess returns (and number of observations) during a 5 year period around the dividend initiation or omission event. The set of counterfactual firms for initiator firms consists of those that continue not to pay. The set of counterfactual firms for omitting firms consists of firms that paid last year and continued paying in the current year. While there are about 15% more observations on initiating firms than on omitting firms, the number of counterfactuals for initiating firms is about 30% larger than for omitting firms. The main result is that there seems to be a positive run up before the initiating year for initiating firms and a negative run-up in the same period for omitting firms. After the event, the returns for both initiating and omitting firms

[7] The similar minimum and maximum of the return observations for treated and omitting firms are caused by winsorizing over the full sample.

[8] Most of the coefficients of correlation are significantly different from 0.

are positive. In every time period, the return effects (relative to the simple counterfactuals) are significantly larger for both initiating and omitting firms.

[Please insert table 2 about here.]

To improve on the adopted counterfactual, used in table 2, we match on the propensity to the dividend initiation/ omission event. In Appendix A, the corresponding logit regressions are detailed. For omitting firms we show results when lagged earnings were negative. The regression specifications are mainly informed by Von Eije, Goyal and Muckley (2014). In addition to those variables, we include possible momentum effects (for two consecutive prior years). We also include a variable related to Baker and Wurgler (2004) to capture time varying relevant circumstances in market to book ratios, which can determine, according to Baker and Wurgler, the likelihood of paying. Overall, the signs of the variables are similar to those found in Von Eije, Goyal and Muckley (2014). The momentum measurement is strongly significant in all regressions. The Baker and Wurgler (2004) variable is only significant for the omissions. An important finding is that the Pseudo R2 is more than twice as large for omissions than it is for initiations. The higher Pseudo R2 suggests that the surprise effect of omissions may be smaller than for initiations.

Table 3 shows the excess log returns in the year of initiation (or omission) and the two consecutive years (Treated).[9] The excess log returns for the counterfactuals (Controls) are also reported. The Unmatched results for the controls are all firms that have the relevant observations. The NN results for the controls show the returns for the distinct nearest neighbours (i.e. firms that have the closest likelihood to initiate/omit based on nearest neighbour matching without replacement). The difference at the NN line gives the estimated effect of the initiation/omission measured through the nearest neighbour matching. Using both the unmatched and NN approaches, there is a significant difference between treated and controls log returns for time t. The NN approach indicates no significant effects of initiations or omissions in time periods t+1 and t+2. Turning our focus to the NN results, initiating firms have an excess log return over controls of 19.1%. Omitting firms have a negative excess log return of 14.1%. For firms with negative lagged income the omission effect is in absolute terms smaller. The surprise for omissions with negative lagged income would, therefore, appears to be substantively smaller. Furthermore, the absolute effect of initiations is larger than that of omissions. This would suggest that there is a greater surprise component in initiations than in omissions.

[Please insert table 3 about here.]

[9] The unmatched results differ from tables 1 and 2, because of the additional requirement that the regressors of the logit equation are available as well as the returns for the years t until t+2.

Table 4 shows tests of whether there are changes in firm characteristics in the year of (re) initiation or (re) omission. This is a further extension of Von Eije, Goyal and Muckley (2014), who show significant risk effects for initiators and omittors based on differences-in-differences. We extend that work to other variables which can be theoretically (or empirically) linked to dividend initiation/ omission event returns. In particular, for stock variables we measure the difference in differences (differences over time compared between treated and nearest neighbours). For flow variables, we measure differences in the flows between treatment and nearest neighbour's. We find that in the treatment year there are also effects on total, systematic and indiosyncratic risk (declining for initiating firms and increasing for omitting firms) and for net income to total assets (increasing for initiating firms and declining for omitting firms). Firm size differences and capital expenditures are significantly different only for the omitting firms. The Baker and Wurgler difference in difference variable is significantly negative for initiating firms.

[Please insert table 4 about here.]

Table 5 shows regression analyses of whether the concomitant differences-in-differences (in stock variables) or differences between treated and controls for flow variables influence the initiation and omission return effect. It can be the case that these annual returns are impacted principally by these firm characteristics rather than the dividend initiation / omission event. We find (Panel A) that concomitant differences in net income , the difference in difference of total assets and of the Baker and Wurgler variable influence the concomitant returns of initiators and also of the two sets of omitting firm returns. The remaining return effects (represented by the constant term) are still significant. The remaining return effects of initiating firms (14.3%) remain in absolute terms larger than those of omitting firms (10.2%).

[Please insert table 5 about here.]

Panels A – D show our findings in respect to whether the initially measured return effect (dlnretw) is robust to the contemporaneous effects we document in table 4. Panels B:D represent variation in model specification in respect to risk (total risk instead of aggregate systematic and idiosyncratic risks) and net operating cash flows to total assets instead of net income to total assets. The first conclusion based on these calculations and robustness checks is that the annual dividend initiation and omission effects are larger than those documented in previous event studies. This suggests that there are run-ups in the announcement years (positive for initiations and negative for omissions), or post event drift (also positive for initiations and negative for omissions), or that we did not capture all contemporaneous effects with the major qualifiers for such effects. The second

conclusion is that the annual dividend omission effects are (surprisingly) all smaller than the annual dividend initiation effects. The latter might imply that the surprise effect of omissions is not as large on an annual basis as might be expected from previous event studies. Such a conclusion is also corroborated by the relatively large adjusted R-squareds in the logit regressions of omissions in comparison to iniiations, as well as from the fact that the annual omission effects of firms with an even higher likelihood to omit (firms with negative last years' earnings) are never even significant.

Table 6 shows the disentanglement of the pure initiation and omission effects from the impact of the contemporaneous effects and it also shows which contemporaneous effects have the largest impact (Coefdid).

[Please insert table 6 about here.]

For initiating firms and for omitting firms the major contemporaneous effects come from the difference in net income between treated and control firms (Coefdid of dnitaw). For omitting firms, quite some contemporaneous effects also arise from the increase in idiosyncratic risk (Coefdid of ddiriskw) and the decrease in firm size (Coefdid of ddlntaw). The main results remain of course (except for rounding errors) unchanged.

A final robustness check is presented in Table 7 (with further information also provided in appendices C and D), where we omit all firms that had re-initiations or re-omissions. This sample thus contains all pure first initiations and omissions. Also here the major conclusions on relatively large annual effects, but smaller absolute annual omission effects hold.

[Please insert table 7 about here.]

4.0 CONCLUSION

Cash dividend payment initiations and omissions are associated with substantive stock price impacts (Michaely, Thaler, and Womack, 1995; Boehme and Sorescu, 2002; Liu, Szewczyk and Zantout, 2008). Due to the "the reluctance of managers to reduce dividends" (Michaely, Thaler, and Womack, 1995) cash dividend payment omissions are generally expected to have greater stock price impact than cash dividend payment initiations. We re-assess the question of whether

stock price impacts really differ at extreme cash dividend pay-out events with an annual event study.

Our main findings are fivefold. First, we provide new price impact estimates. We find larger price effects during the years of cash dividend initiation and omission than is measured by short period event studies. Our propensity score matching (nearest neighbour) difference-in-differences findings suggest that the one year price impact of initiations is 19.1% and the one-year price decline of dividend omissions is 14.1%. Second, the annual return effects are in absolute terms smaller for omissions than for initiations. This suggests that an omission in a certain year is not as much a surprise as an initiation. This is also indicated by the pseudo R-squared statistics in our logit models are (approximately) twice as large for omission events as for initiation events. Using an extended sample of pre- dividend initiation/ omission event publicly available information (von Eije, Goyal and Muckley, 2014) there is a significantly higher capacity for investors to predict omission than initiation events. Third, we find no price impact after one year has elapsed. Fourth, after correction for within same year 'contemporaneous' factors, we show that the long run one year return impact of initiations is (surprisingly) still larger than that of omissions.

Our fifth finding is a set of findings in respect to contemporaneous (same year) determinants of price effects. We find that the difference-in-differences in systematic risk do not influence concurrent returns after initiations or omissions. However, difference-in-differences in total risk is relevant. We also find that difference-in-differences in idiosyncratic risk does influence the returns after dividend omissions. Finally, income, size and catering effects (Baker and Wurgler, 2004), influence relative returns after cash dividend initiations and omissions.

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Table 1 Characteristics of dividend (re)initiating firms and dividend (re)omitting firms in the year of initiation (or omission), 1972-2012

Panels A and B represent the characteristics for the (re) initiating or (re)omitting firms. Panel C shows the coefficients of correlation with the winsorized natural log excess returns during the fiscal year (lnretw), dtriskw is the change in winsorized total risk, dsriskw is the change in winsorized systematic risk, diriskw is the change in winsorized idiosyncratic risk, nitaw is the winsorized ratio of net income to total assets, nocftaw is the winsorized ratio of net cash flow from operations (only available from 1985) to total assets. The risk measures are calculated on a weekly basis. The winsorizing is done for each variable separtely at 0.5% two-sided. p5, p50 and p95 are the observations at the 5th, 50th and 95th percentile respectively.

	lnretw	dtriskw	dsriskw	diriskw	nitaw	nocftaw
	Panel A (Re)initiating firms: Dividends paid in the current year, but not in the previous year					
Observations	1327	1378	1378	1378	1377	946
Mean	0.173	-0.005	-0.003	-0.004	0.065	0.102
Standard deviation	0.467	0.026	0.019	0.023	0.115	0.117
Minimum	-2.174	-0.156	-0.078	-0.144	-1.830	-1.318
Maximum	1.685	0.156	0.070	0.153	0.305	0.398
p5	-0.587	-0.046	-0.033	-0.039	-0.048	-0.046
p50	0.179	-0.005	-0.002	-0.004	0.065	0.105
p95	0.921	0.034	0.026	0.030	0.199	0.266
	Panel B (Re)omitting firms: no dividends paid in the current year, but paid in the previous year					
Observations	1156	1173	1173	1173	1173	808
Mean	-0.113	0.007	0.002	0.007	-0.045	0.052
Standard deviation	0.597	0.035	0.021	0.032	0.180	0.123
Minimum	-2.174	-0.186	-0.089	-0.161	-1.830	-1.318
Maximum	1.685	0.166	0.088	0.174	0.305	0.398
p5	-1.149	-0.038	-0.030	-0.038	-0.327	-0.098
p50	-0.091	0.005	0.001	0.004	-0.003	0.058
p95	0.793	0.066	0.042	0.060	0.123	0.216

Panel C Unconditional coefficients of correlation with the winsorized natural log excess returns (lnretw) and the concomitant p=values

	Dividend (re)initiating firms (920 observations)		Dividend (re)omitting firms (802 observations)	
	lnretw	p-value	lnretw	p-value
dtriskw	-0.080	0.015	-0.294	0.000
dsriskw	-0.054	0.101	-0.174	0.000
diriskw	-0.065	0.049	-0.291	0.000
nitaw	0.234	0.000	0.329	0.000
nocftaw	0.112	0.001	0.205	0.000

Table 2 Fiscal year excess returns during five years around the dividend initiation or the dividend omission, 1972-2012

Panel A provides the natural logarithmic excess returns of (re) initiating firms (firms that paid in fiscal year t, but did not in fiscal year t-1) in comparison to firms that continue not to pay in fiscal year t (no payment in both fiscal years t and t-1). Panel B provides the natural logarithmic excess returns of (re)omitting firms (firms that paid in fiscal year t-1, but not in fiscal year t) in comparison to firms that continue to pay in fiscal year t. The t-values refer to the differences in mean values for condition 0 respectively 1 with variances assumed to be unequal. t-2 till t+2 refers to fiscal firm-year observations connected to the fiscal firm-year observation in year t.

	Number of observations						Mean excess returns and t-values of differences				
	t-2	t-1	t	t+1	t+2		t-2	t-1	t	t+1	t+2
Panel A (Re)initiating firms (=1) versus firms that continue not paying (=0)											
0	32210	37720	37714	32379	28017	0	-0.023	-0.032	-0.040	-0.021	-0.010
1	1187	1364	1327	1140	1018	1	0.051	0.136	0.173	0.075	0.069
Total	33397	39084	39041	33519	29035	t-values	-4.654	-12.497	-16.056	-6.408	-5.058
Panel B (Re)omitting firms (=1) versus firms that continue to pay (=0)											
0	24419	26220	26282	24402	22690	0	0.105	0.095	0.079	0.082	0.092
1	1015	1145	1156	988	869	1	-0.087	-0.241	-0.113	0.037	0.036
Total	25434	27365	27438	25390	23559	t-values	11.885	19.155	10.828	2.379	3.061

Table 3 Propensity score matching results for (re)initiating and (re)omitting firms

The mean of the winsorized natural log excess returns (lnretw) of initiating (treated in panel A) and omitting (treated in panels B and C) firms are compared to the full group of counterfactual firms (Controls) at the Unmatched line and to the firms that are the nearest neighbors (without replacement) in the common support region (Controls at the NN line) for the event year (t) and two years after the event(t+1 and t+2)., Panel C has –in comparison to panel B- the additional requirement that the lagged net income is negative. Diff is the difference between the mean values of Treated and Control firms, SE the standard error of the difference and T-stat is the t-statistic of the difference.

time	Sample	Treated	Controls	Difference	S.E.	T-stat
		Panel A (Re)initiating firms (793 observations with common support)				
t	Unmatched	0.202	0.019	0.183	0.022	8.30
	NN	0.202	0.011	0.191	0.024	7.94
t+1	Unmatched	0.087	0.012	0.075	0.022	3.44
	NN	0.087	0.062	0.025	0.025	1.01
t+2	Unmatched	0.059	-0.007	0.067	0.022	3.03
	NN	0.059	0.055	0.004	0.026	0.16
		Panel B (Re)omitting firms (705 observations with common support)				
t	Unmatched	-0.045	0.079	-0.124	0.014	-8.93
	NN	-0.046	0.096	-0.141	0.028	-4.97
t+1	Unmatched	0.060	0.087	-0.028	0.014	-2.00
	NN	0.058	0.100	-0.043	0.028	-1.53
t+2	Unmatched	0.037	0.087	-0.050	0.014	-3.57
	NN	0.038	0.046	-0.008	0.027	-0.30
		Panel C (Re)omitting firms with lagged negative income (381 observations with common support)				
t	Unmatched	-0.011	0.015	-0.027	0.028	-0.96
	NN	-0.047	0.021	-0.068	0.040	-1.68
t+1	Unmatched	0.092	0.080	0.012	0.026	0.45
	NN	0.094	0.110	-0.016	0.038	-0.42
t+2	Unmatched	0.053	0.059	-0.006	0.027	-0.23
	NN	0.057	0.065	-0.007	0.037	-0.20

Table 4 Fiscal year changes in firm characteristics in the year of (re)initiation or (re)omission, 1972-2012

The change in characteristics of initiating (Treated in panel A) and omitting (Treated in panels B and C) firms are compared to the firms that are the nearest neighbors (without replacement) in the common support region (Controls) during the year of the initiation or omission. Panel C has –in comparison to panel B- the additional requirement that the lagged net income is negative. lnretw is the winsorized natural log excess returns, dtriskw is the change in total risk, dsrisk is the change in systematic risk, dirisk is the change in idiosyncratic risk, nita is net income to total assets, capexta are the capital expenditures to total assets, dlnta is the change in the natural log of total assets, drete is the change in the ratio of retained earnings to total equity, and dbwmean is the change in the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers. The risk measures are calculated on a weekly basis. All variables are winsorized at 0.5% two-sided (indicated by the letter "w" at the end of the mnemonic. Diff is the difference between the mean values of Treated and Control firms. T-stat is the t-statistic of the difference.

	Treated	Controls	Difference	T-stat
	(Re)initiating firms (1122 observations)			
lnretw	0.192	0.002	0.191	9.29
dtriskw	-0.006	0.000	-0.006	-5.29
dsriskw	-0.003	0.000	-0.004	-4.88
diriskw	-0.004	0.000	-0.004	-4.25
nitaw	0.064	0.028	0.036	6.32
capextaw	0.060	0.062	-0.002	-0.69
dlntaw	0.099	0.102	-0.003	-0.26
dretew	0.035	-0.028	0.063	0.38
dbwmean	-0.017	0.001	-0.018	-2.44
	(Re)omitting firms (973 observations)			
lnretw	-0.108	0.094	-0.203	-8.24
dtriskw	0.008	-0.003	0.011	7.61
dsriskw	0.003	-0.003	0.006	6.38
diriskw	0.007	-0.002	0.009	6.87
nitaw	-0.048	0.008	-0.057	-8.44
capextaw	0.046	0.056	-0.009	-3.95
dlntaw	-0.032	0.021	-0.053	-4.85
dretew	0.102	-0.009	0.111	0.77
dbwmean	-0.006	-0.008	0.001	0.13
	(Re)omitting firms with negative income (559 observations)			
lnretw	-0.117	0.015	-0.132	-3.79
dtriskw	0.010	0.001	0.009	4.42
dsriskw	0.003	-0.001	0.005	3.51
diriskw	0.010	0.002	0.008	4.17
nitaw	-0.088	-0.018	-0.071	-6.90
capextaw	0.039	0.048	-0.009	-3.55
dlntaw	-0.118	-0.033	-0.086	-6.41
dretew	0.014	-0.160	0.174	0.63
dbwmean	-0.018	-0.019	0.001	0.08

Table 5 Regression analysis of differences in differences for (re)initiating and (re)omitting firms, 1972-2012

The dependent variable is the difference of the current winsorized fiscal year natural log-return between treated (initiating in Panel A and omitting in Panel B) firms and that of their nearest neighbors. dsrisk is the change in systematic risk, dirisk is the change in idiosyncratic risk, nita is net income to total assets, nocfta is the net cash flow from operations (only available from 1985), capexta are the capital expenditures to total assets, dlnta is the change in the natural log of total assets, drete is the change in the ratio of retained earnings to total equity, and dbwmean is the change in the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers.. All independent variables are the differences (indicated by the letter "d" in front of the mnemonic) between the winsorized treated variables and their winsorized nearest neighbor variables. The risk measures are calculated on a weekly basis. The winsorizing of the variables of treated and control firms is indicated by the letter "w" at the end of the mnemonic. The t-values (t) and p-values (P>t) are based on robust standard errors. The constant term is the average annual return effect of the treatment after correction for contemporaneous changes..

Panel A Difference in difference regressions with systematic and idiosyncratic risk and the ratio of net income to total assets

	(Re)initiations		(Re)omissions		(Re)omissions for firms with negative lagged income	
	Coef	P>t	Coef	P>t	Coef	P>t
ddsriskw	-0.834	0.357	0.226	0.810	0.725	0.556
ddiriskw	-1.180	0.166	-3.298	0.000	-3.180	0.000
dnitaw	0.896	0.000	0.908	0.000	0.793	0.000
ddlntaw	0.297	0.000	0.355	0.000	0.309	0.008
dcapextaw	-0.401	0.097	0.104	0.746	-0.283	0.536
ddretew	-0.005	0.263	0.008	0.298	0.006	0.184
ddbwmean	-0.408	0.000	-0.586	0.000	-0.582	0.000
Constant	0.143	0.000	-0.102	0.000	-0.031	0.327
Observations	1122		973		559	
R^2	0.111		0.204		0.210	

Panel B Difference in difference regressions with total risk and the ratio of net income to total assets

	(Re)initiations		(Re)omissions		(Re)omissions for firms with negative lagged income	
	Coef	P>t	Coef	P>t	Coef	P>t
ddtriskw	-1.436	0.033	-1.946	0.027	-1.329	0.280
dnitaw	0.894	0.000	0.976	0.000	0.869	0.000
ddlntaw	0.296	0.000	0.374	0.000	0.322	0.007
dcapextaw	-0.398	0.099	0.134	0.680	-0.280	0.538
ddretew	-0.005	0.264	0.007	0.401	0.005	0.266
ddbwmean	-0.409	0.000	-0.575	0.000	-0.582	0.000
Constant	0.143	0.000	-0.115	0.000	-0.039	0.219
Observations	1122		973		559	
R^2	0.111		0.181		0.187	

To be continued

Table 5 continued

Panel C Difference in difference regressions with systematic and idiosyncratic risk and the ratio of net operating cash flows to total assets

	(Re)initiations		(Re)omissions		(Re)omissions for firms with negative lagged income	
	Coef	P>t	Coef	P>t	Coef	P>t
ddsriskw	-1.355	0.251	-0.708	0.609	0.332	0.856
ddiriskw	-2.062	0.062	-4.100	0.000	-4.473	0.000
dnocftaw	0.316	0.129	0.506	0.056	0.234	0.355
ddlntaw	0.426	0.000	0.580	0.000	0.523	0.001
dcapextaw	-0.813	0.007	0.091	0.833	0.045	0.958
ddretew	-0.003	0.584	0.008	0.360	0.009	0.115
dbwmean	-0.142	0.302	-1.071	0.000	-0.901	0.002
Constant	0.168	0.000	-0.120	0.000	-0.034	0.502
Observations	734		532		267	
R^2	0.084		0.221		0.200	

Panel D Difference in difference regressions with total risk and the ratio of net operating cash flows to total assets

	(Re)initiations		(Re)omissions		(Re)omissions for firms with negative lagged income	
	Coef	P>t	Coef	P>t	Coef	P>t
ddtriskw	-2.342	0.006	-3.736	0.002	-2.660	0.112
dnocftaw	0.292	0.157	0.466	0.082	0.205	0.429
ddlntaw	0.418	0.000	0.626	0.000	0.558	0.001
dcapextaw	-0.776	0.009	0.399	0.356	0.231	0.767
ddretew	-0.002	0.617	0.004	0.624	0.007	0.285
ddbwmean	-0.304	0.006	-0.774	0.000	-0.830	0.000
Constant	0.164	0.000	-0.134	0.000	-0.040	0.425
Observations	734		532		267	
R^2	0.096		0.188		0.177	

Table 6 The relative impact of the concomitant annual differences in differences during the year of (re)intiating or (re)omitting, 1972-2012

The table presents the impact of the changes in the difference in differences of firm characteristics during the event year on the impact of the annual excess returns applied to the regression estimates of Table 6, panel A.. dsrisk is the change in systematic risk, dirisk is the change in idiosyncratic risk, nita is net income to total assets, nocfta is the net cash flow from operations (only available from 1985), capexta are the capital expenditures to total assets, dlnta is the change in the natural log of total assets, drete is the change in the ratio of retained earnings to total equity, and dbwmean is the change in the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers The risk measures are calculated on a weekly basis.. The dependent variable is the difference of the current winsorized fiscal year natural log-return between treated (initiating in Panel A and omitting in Panels B and C) firms and that of their nearest neighbors. The difference between the winsorized (indicated by the letter "w" at the end of the mnemonic) between the treated variables and their winsorized nearest neighbor variables are indicated by the letter "d" in front of the mnemonic. Coef is the coefficient of the regression equation (Table 6, panel A), DID is the difference in difference of the firms characteristics in the year of the treatment between treated firms and their nearest neighbor in the propensity score matching based on the logit regressions of Appendix A. Coefdid is the multiplication of the coefficients by the DIDs. Except for rounding errors the constant term of the regression equation(Constant) equals the estimated difference in differences in firm excess returns(dlnretw) minus the sum of the multiplication of the coefficients with the concomitant average difference in differences (Sum of Coefdid).

	(Re)initiating firms			(Re)omitting firms			(Re)omitting firms with negative lagged income		
	Coef	DID	Coefdid	Coef	DID	Coefdid	Coef	DID	Coefdid
ddsriskw	-0.834	-0.004	0.003	0.226	0.006	0.001	0.725	0.005	0.004
ddiriskw	-1.180	-0.004	0.005	-3.298	0.009	-0.030	-3.180	0.008	-0.025
dnitaw	0.896	0.036	0.032	0.908	-0.057	-0.052	0.793	-0.071	-0.056
ddlntaw	0.297	-0.003	-0.001	0.355	-0.053	-0.019	0.309	-0.086	-0.027
dcapextaw	-0.401	-0.002	0.001	0.104	-0.009	-0.001	-0.283	-0.009	0.003
ddretew	-0.005	0.063	0.000	0.008	0.111	0.001	0.006	0.174	0.001
ddbwmean	-0.408	-0.018	0.007	-0.586	0.001	-0.001	-0.582	0.001	-0.001
Constant	0.143			-0.102			-0.031		
Sum of Coefdid			0.047			-0.100			-0.102
dlnretw		0.191			-0.203			-0.132	
Dlnretw minus Sum of Coefdid			0.144			-0.103			-0.030

Table 7 Robustness checks for differences in differences for first initiating and first omitting firms, 1972-2012

The dependent variable is the difference of the current winsorized fiscal year natural log-return between treated (initiating in Panel A and omitting in Panel B) firms and that of their nearest neighbors. dsrisk is the change in systematic risk, dirisk is the change in idiosyncratic risk, nita is net income to total assets, nocfta is the net cash flow from operations (only available from 1985), capexta are the capital expenditures to total assets, dlnta is the change in the natural log of total assets, drete is the change in the ratio of retained earnings to total equity, and dbwmean is the change in the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers. The risk measures are calculated on a weekly basis. All independent variables are the differences (indicated by the letter "d" in front of the mnemonic) between the winsorized treated variables and their winsorized nearest neighbor variables. The winsorizing of the variables of treated and control firms is indicated by the letter "w" at the end of the mnemonic. The t-values (t) and p-values (P>t) are based on robust standard errors. The constant term is the average annual return effect of the treatment after correction for contemporaneous changes Coefdid is the multiplication of the coefficients by the DIDs. Except for rounding errors the constant term of the regression equation(Constant) equals the estimated difference in differences in firm excess returns(dlnretw) minus the sum of the multiplication of the coefficients with the concomitant average difference in differences (Sum of Coefdid).

Difference in difference regressions with systematic and idiosyncratic risk and the ratio of net income to total assets

	First initiating firms			First omitting firms		
	Coef	P>t	Coefdid	Coef	P>t	Coefdid
ddsriskw	-3.808	0.000	0.020	-0.100	0.919	-0.001
ddiriskw	-0.545	0.526	0.003	-3.127	0.000	-0.029
dnitaw	0.961	0.000	0.040	1.111	0.000	-0.066
ddlntaw	0.354	0.000	-0.001	0.168	0.078	-0.002
dcapextaw	0.016	0.947	0.000	-0.074	0.808	0.004
ddretew	-0.006	0.115	-0.001	0.007	0.249	0.001
ddbwmean	-0.303	0.001	0.010	-0.535	0.000	0.004
Constant	0.138	0.000		-0.114	0.000	
Observations	956			822		
R^2	0.178			0.212		
Sum of Coefdid			0.070			-0.088
DID lnretw			0.209			-0.213

Appendix A Logit equations for initiations and omissions

The dependent variable of columns 1 and 2 is a dummy that represents initiating firms (dummy=1) compared to the firms that do not initiate (dummy=0), and in columns 3 till 6 the omitting firms (dummy=1) compared to the firms that continue to pay (dummy=0). Columns 5 and 6 differ from columns 3 and 4 because of the addition of the requirement that the ratio of net income to total assets is negative in the previous year. lnret is the fiscal year return, trisk is the standard deviation of weekly return risk for a fiscal year, lnta is the natural log of total assets, rete is the retained earnings to total equity, nita is net income to total assets, data is the relative change in total assets, mtb is the market to book value of equity, ltdta is long term debt divided by total assets, cata is the cash and near cash divided by total assets, sdnita is the three year standard deiviation of the ratio of net income to total assets, ipoage is the age of the firm measured snce the IPO-year, divdurl is the lagged uninterrupted duration of the dividend payment in years, bwmean is the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers. t is time and t2 is time squared. Constant is the constant term of the logit equation. The regressions contain 1-digit industry dummies (not reported). All financial variables are winsorized at 0.5% two-sided sided (except bwmeanl which is already based on winsorized variables) and lagged (indicated by the letters "w" and "l" at the end of the mnemonic, and l2 if two year lagged).Coef is the coefficient of thelogit equation and P>z indicates the significance of the z-value.

	(Re)initiating firms		(Re)omitting firms		(Re)omitting firms with negative lagged income	
	1	2	3	4	5	6
	Coef	P>z	Coef	P>z	Coef	P>z
l2lnretw	0.135	0.028	-0.628	0.000	-0.783	0.000
l1lnretw	0.548	0.000	-1.170	0.000	-1.231	0.000
triskwl	-7.625	0.000	18.760	0.000	17.275	0.000
lntawl	0.073	0.002	-0.311	0.000	-0.293	0.000
retewl	0.025	0.050	-0.046	0.083	-0.038	0.159
nitawl	4.538	0.000	-8.715	0.000	-5.980	0.000
datawl	-0.758	0.000	0.367	0.005	0.626	0.002
mtbwl	-0.020	0.071	0.040	0.005	0.011	0.665
ltdtawl	-0.453	0.028	1.837	0.000	0.347	0.346
catawl	0.359	0.060	0.300	0.363	-1.168	0.051
sdnitawl	-1.384	0.002	2.422	0.000	-6.388	0.000
ipoage	0.013	0.001	0.024	0.000	0.016	0.056
divdurl			-0.093	0.000	-0.056	0.000
bwmeanl	0.241	0.314	-1.017	0.000	-1.177	0.003
t1	-0.332	0.000	0.145	0.000	-0.052	0.230
t2	0.004	0.000	-0.002	0.000	0.000	0.581
Constant	2.749	0.000	-4.011	0.000	1.881	0.056
Observations	33052		24381		2269	
Pseudo R2	0.121		0.297		0.241	
Chi-squared test	0.000		0.000		0.000	
Events	1169		992		573	
Specification test						

Appendix B Tests on common mean characteristics of treated and counterfactual firms for variables used in the logit analyses

The results are based on the propensity score matches for the relevant variables. lnret is the fiscal year return, trisk is the standard deviation of weekly return for a fiscal year, lnta is the natural log of total assets, rete is the retained earnings to total equity, nita is net income to total assets, data is the relative change in total assets, mtb is the market to book value of equity, ltdta is long term debt divided by total assets, cata is the cash and near cash divided by total assets, sdnita is the three year standard deviation of the ratio of net income to total assets, ipoage is the age of the firm measured since the IPO-year, bwmean is the ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers, divdurl is the lagged uninterrupted duration of the dividend payment in years, t is time and t2 is time squared. All financial variables are winsorized at 0.5% two-sided (except lbwmean which is already based on winsorized variables) and lagged (indicated by the letters "w" and "l" at the end of the mnemonic, and l2 if two year lagged).Treated are the initiating or omitting firms, Controls are the concomitant counterfactual observations, Difference is the difference between the means of the treated and control variables, and t-stat is the t-statistic of the difference.

	(Re)initiating firms				(Re)omitting firms				(Re)omitting firms with negative lagged income			
	Treated	Controls	Difference	T-stat	Treated	Controls	Difference	T-stat	Treated	Controls	Difference	T-stat
lnretwl2	0.055	0.048	0.007	0.31	-0.093	-0.094	0.001	0.05	-0.189	-0.145	-0.043	-1.70
lnretwl	0.143	0.137	0.005	0.26	-0.244	-0.209	-0.035	-1.41	-0.402	-0.285	-0.117	-3.75
triskwl	0.070	0.070	0.000	0.21	0.075	0.072	0.002	1.64	0.078	0.070	0.008	4.32
lntawl	5.192	5.200	-0.009	-0.11	5.256	5.092	0.164	2.25	5.377	5.393	-0.016	-0.17
retewl	0.265	0.224	0.041	0.32	0.174	0.374	-0.200	-1.86	0.121	0.272	-0.150	-0.92
nitawl	0.054	0.051	0.003	0.58	-0.033	-0.010	-0.023	-3.84	-0.103	-0.078	-0.025	-3.06
datawl	0.122	0.127	-0.005	-0.47	0.056	0.065	-0.009	-0.53	-0.021	-0.008	-0.014	-0.65
mtbwl	2.125	2.102	0.023	0.16	1.728	1.815	-0.087	-0.55	1.209	1.036	0.173	1.10
ltdtawl	0.167	0.165	0.003	0.36	0.233	0.233	-0.001	-0.07	0.246	0.237	0.009	0.78
catawl	0.170	0.161	0.009	1.14	0.103	0.109	-0.006	-0.88	0.077	0.077	0.000	-0.06
sdnitawl	0.054	0.053	0.001	0.15	0.073	0.064	0.009	2.12	0.088	0.077	0.011	2.12
ipoage	13.471	13.389	0.081	0.22	15.373	15.151	0.222	0.49	16.297	16.138	0.159	0.26
bwmeanl	1.074	1.078	-0.004	-0.54	1.057	1.049	0.008	1.00	1.064	1.051	0.014	1.33
divdurl					6.882	6.053	0.828	2.88	8.376	8.560	-0.184	-0.42
t1	35.873	35.831	0.042	0.08	34.479	34.686	-0.207	-0.43	33.631	33.435	0.197	0.32
t2	1442.6	1443.4	-0.864	-0.02	1304.0	1312.2	-8.182	-0.25	1243.7	1218.4	25.306	0.60

Appendix C The differences between the treated and control firms for first initiating and first omitting firms, 1972-2012

lnret is the fiscal year return, (d)trisk is the (change in the) standard deviation of weekly return for a fiscal year, (d)lnta is the (change in the) natural log of total assets, (d)rete is the(change in the) retained earnings to total equity, nita is net income to total assets, data is the relative change in total assets, mtb is the market to book value of equity, ltdta is long term debt divided by total assets, cata is the cash and near cash divided by total assets, sdnita is the three year standard deviation of the ratio of net income to total assets, ipoage is the age of the firm measured since the IPO-year, (d)bwmean is the (change in the) lagged ratio of the mean annual winsorized market to book values of payers divided by similar values for non-payers, divdur is the lagged uninterrupted duration of the dividend payment in years, t is time and t2 is time squared. All financial variables are winsorized at 0.5% two-sided (except bwmean which is already based on winsorized variables) and lagged (indicated by the letters "w" and "l" at the end of the mnemonic, and l2 if two year lagged).Treat are the initiating or omitting firms, Contr are the concomitant counterfactual observations, DID is the difference between the means of the treated and control variables, and T-stat is the t-statistic of the DID.

	First initiating firms				First omitting firms			
Variable	Treat	Contr	DID	T-stat	Treat	Contr	DID	T-stat
	PanelA Variables used in the logit equations							
lnretwl2	0.064	0.066	-0.002	-0.06	-0.113	-0.106	-0.007	-0.3
lnretwl	0.131	0.138	-0.008	-0.34	-0.267	-0.259	-0.008	-0.29
triskwl	0.070	0.070	0.001	0.48	0.075	0.074	0.001	0.86
lntawl	5.168	5.175	-0.006	-0.08	5.292	5.187	0.106	1.33
retewl	0.207	0.098	0.109	0.86	0.117	0.394	-0.277	-2.14
nitawl	0.054	0.044	0.010	1.54	-0.038	-0.018	-0.020	-2.87
datawl	0.128	0.111	0.017	1.48	0.057	0.079	-0.023	-1.17
mtbwl	2.217	2.279	-0.063	-0.39	1.705	1.871	-0.166	-0.96
ltdtawl	0.165	0.166	-0.001	-0.15	0.239	0.238	0.001	0.14
catawl	0.171	0.171	-0.001	-0.08	0.104	0.106	-0.003	-0.38
sdnitawl	0.053	0.055	-0.001	-0.35	0.076	0.068	0.009	1.71
ipoage	12.140	11.945	0.196	0.57	14.015	13.258	0.757	1.75
bwmeanl	1.081	1.070	0.011	1.43	1.062	1.055	0.007	0.76
divdurl				0.83	7.321	6.562	0.759	2.23
t1	35.167	34.686	0.481	0.88	33.962	33.934	0.028	0.05
t2	1395.4	1361.8	33.6	9.2	1268.2	1265.1	3.2	0.09
	Panel B Contemporaneous changes							
lnretw	**0.200**	**-0.009**	**0.209**	**-6.38**	**-0.110**	**0.104**	**-0.213**	**-7.68**
dtriskw	-0.005	0.002	-0.007	-6.33	0.009	-0.003	0.012	6.97
dsriskw	-0.004	0.002	-0.005	-4.83	0.003	-0.003	0.006	5.93
diriskw	-0.004	0.001	-0.005	6.27	0.008	-0.001	0.009	6.26
nitaw	0.063	0.022	0.041	-1.45	-0.049	0.011	-0.060	-7.92
capextaw	0.061	0.066	-0.004	-0.16	0.046	0.058	-0.013	-4.78
dlntaw	0.107	0.109	-0.002	1.06	-0.043	0.013	-0.056	-4.77
dretew	0.074	-0.116	0.190	-4.13	0.152	-0.053	0.205	1.21
dbwmean	-0.019	0.014	-0.033		-0.011	-0.004	-0.008	-0.81

Appendix D The results for initiations if the requirement is set that it is the first initiation announcement since 1959 and that data are available in our dataset

	Regression equation		Differences				Coefdif
	Coef.	P>t	treated	controls	Diff	T-val	
ddsriskw	0.316	0.904	-0.005	-0.001	-0.005	-2.97	-0.001
ddiriskw	-1.148	0.544	-0.005	-0.002	-0.003	-1.5	0.003
dnitaw	2.012	0.000	0.075	0.052	0.023	3	0.047
ddlntaw	0.031	0.882	0.110	0.107	0.003	0.18	0.000
dcapextaw	-0.025	0.970	0.068	0.065	0.002	0.44	0.000
ddretew	-0.037	0.304	0.093	-0.174	0.268	1.45	-0.010
ddbwmean	-0.757	0.000	-0.057	-0.003	-0.054	-3.46	0.041
_cons	**0.099**	0.092					
R2	0.279						
Observations	109				259		
lnretw			0.179	0.023	**0.156**	4.14	
Sum Coefdif							**0.079**